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**MATH 147: Precalculus (Fall 2009)**

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**Instructor:** Djamel Bouchaffra, Associate Professor

**Class Time:** Tuesday (Lecture) and Thursday (Lab) from 9:30 to 10:50 am, Room: 282 Carver Hall  
Wednesday from 5 to 5:50 pm, Room: 279 Carver Hall (Lecture)

**Office Hours:** 133 Carver Hall  
Tuesday and Thursday from 11am to 2:00pm.  
Wednesday from 2 to 3pm.

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**Website:** <http://www.djamel-bouchaffra.info>

**Textbook:** R. Narasimhan, *Precalculus: Building Concepts and Connections*, 1st Edition, Houghton Mifflin, © 2009,  
ISBN-13: 9780618413010

**Materials:** Textbook, Scientific Calculator, Notebook.

**Course Description:**

We start this course by covering functions, graphs and applications as chapter 1. Graph of quadratic functions, quadratic equations, and complex numbers are laid in chapter 2. We address polynomial and rational functions in chapter 3. Divisions of polynomials, real zeros of polynomials, solutions of equations and complex zeros as well as the Fundamental Theorem of Algebra are introduced in this chapter. Chapter 4 is devoted to exponential and logarithmic functions whereas the concept of systems of equations (that invokes matrices) and inequalities are covered in chapter 8. Finally, we present general sequences and series, probability theory and mathematical inductions in chapter 10.

**Link to course materials (slides hand-out, homework assignments, tasks schedule...):**  
<http://www.djamel-bouchaffra.info>

**Objectives:**

By the end of the semester, students enrolled in this course should be able to:

- A. Draw the graphs of functions
- B. Find the inverse of a function
- C. Determine the zeros of polynomial functions
- D. Solve equations and inequalities
- E. Define complex numbers and some basic operations
- F. Understand the Fundamental Theorem of Algebra
- G. Solve exponential and logarithmic functions
- H. Solve systems of equations
- I. Manipulate matrices and their operations
- J. Understand sequences and the Binomial Theorem
- K. Prove statements using induction
- L. Evaluate probabilities of events.

**Class Topics Schedule (TENTATIVE!):**

Date	Topics	Assignments & Exams
Week 1 (08/18):	No classes	
Week 2 (08/25):	Functions, Graph and Applications (Chapter 1)	
Week 3 (09/01):	Functions, Graph and Applications (Chapter 1)	
Week 4 (09/08):	More about Functions and Equations (Chapter 2)	
Week 5 (09/15):	More about Functions and Equations (Chapter 2)	
Week 6 (09/22):	<b>No class on Tuesday Sept. 22<sup>nd</sup>: Founder's Day</b>	Homework 1 assigned on Wednesday 09/23
	Polynomial and Rational Functions (Chapter 3)	
Week 7 (09/29):	Polynomial and Rational Functions (Chapter 3)	Homework 1 due on Thursday 10/01
Week 8 (10/06):	Class exercises (Tuesday and Wednesday)	<b>Mid-Term Exam (Thursday 10/08)</b>
Week 9 (10/13):	Polynomial and Rational Functions (Chapter 3)	
Week 10 (10/20):	Exponential and Logarithmic Functions (Chapter 4)	Homework 2 assigned on Thursday 10/22
Week 11 (10/27):	Exponential and Logarithmic Functions (Chapter 4)	Homework 2 due on Thursday 10/29
Week 12 (11/03):	Systems of Equations and Inequalities (Chapter 8)	
Week 13 (11/10):	Systems of Equations and Inequalities (Chapter 8)	
Week 14 (11/17):	More Topics in Algebra (Chapter 10)	Homework 3 assigned on Tuesday 11/17
Week 15 (11/24):	More Topics in Algebra (Chapter 10)	Homework 3 due Tuesday 11/24
	<b>No classes on Wed. and Thurs. (Thanksgiving)</b>	
Week 16 (12/1)	Class Exercises (Tuesday and Wednesday)	
	<b>Wednesday Last Day of Class</b>	
<b>Final Exam on Thursday December 10<sup>th</sup>, 2009 from 10:30am to 12:30pm</b>		

**Grading:**

- Final Exam (25%) (1 page of notes permitted)
- Mid-Term Exam (20%) (1 page of notes permitted)
- Homework (55%)

**Grading Scale:**

**A:** 90-100   **B:** 80-89   **C:** 70-79   **D:** 60-69   **F:** below 60

**Plagiarism or cheating on any test or exam results in a course grade of F, and expulsion from the classroom.**

**Instructions Regarding Assignments**

- NO LATE assignments will be accepted. Assignments should be submitted on the date and time due.
- Plagiarized assignments will result in a grade of "F".

**Policies:**

All rules and regulations stipulated in the GSU Student Handbook will apply. In addition:

- Everyone is expected to conduct himself/herself in a mature and responsible manner. No eating or drinking during class. Men should remove hats.
- Class attendance is a privilege and a duty. Everyone is expected to arrive on time and remain for the entire class period. Failure to do so is considered an absence.
- Attendance will be recorded each class period. The attendance record will be routed to the registers office immediately by computer. Be on time since being late is counted as absent. The roll is used by financial aid to determine your qualifications for refunds and/or financial aid.
- It is the responsibility of a student who misses a class to find out what was missed and cover the missed work.
- **CELL PHONES MUST BE TURNED OFF** in the classrooms and faculty offices.
- **NO MAKEUP TESTS WILL BE GIVEN.** A student who knows in advance that he/she will be absent from a test with a University excuse (due to, e.g., band, athletics, or other university-related event) may petition to take the test **early**. No test is given after the scheduled date. A schedule of your extracurricular activity and verification (document signed by the sponsor) of your participation must be submitted to me by the close of registration.
- No work for extra credit will be assigned on an individual basis during or after the semester.
- Group discussions and study groups outside the classroom are strongly encouraged.
- Cheating of any kind is a very serious matter and will result in an "F" grade in the course.
- During a test the students will sit in alternate rows. Cell phones must be turned off and put away.
- Do not ask questions during a test. If you find a question ambiguous, you should write a note to that effect and proceed using your best judgment. Student whose first language is not English may ask for clarification of a word or phrase.
- During a test nobody may leave the room and return to work on the test. A student, who arrives after the first completed test has been submitted, will not be able to take the test.

**Security of Exams**

During exam periods all students will be required to show a valid University ID.

**Additional Instructions:**

- All tests are given in the assigned classroom. The test content will be representative of all classroom lectures.
- No student is exempt from taking the final examination.
- Please inform the instructor as early as possible if you are a graduating senior.
- Students participating in University sponsored extra curricula activities, e.g., band, football, track. etc., should submit a signed verification from the activity's director by the end of the third week of classes. Written notification of a scheduled event that conflicts with a test date should be given to the instructor at least a week before the test date so that the test can be rescheduled. The rescheduled test should be taken prior to the scheduled date or no later than three days after that date.

**Resolution of Concerns or Problems**

If you have any concerns or problems regarding any aspect of this course, please discuss it first with the instructor and then, if necessary, with the department head.

**Disabilities Statement**

If you need accommodation in this class/setting/facility related to a disability, please inform the instructor of the course as soon as possible.